



State of Wisconsin

2012 Strategic IT Plan





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Introduction

The State of Wisconsin is on a new path to dramatically improve the business and economic climate of the state. Governor Walker has articulated his business goals:

- Create Jobs
- Promote Economic Growth
- Transform Education
- Operate Government with Business-Like Efficiency
- Implement Lean Government

Given these clearly expressed business goals, successful execution of business strategies requires a synergistic alignment of information technology strategies to support and enable the business. It has never been more apparent than in today's changing business climate that IT needs to be integrated into the business and enable business transformation efforts. IT has to align and execute in unison to enable transformative business change.

Under Governor Walker's leadership, with the introduction of Executive Order # 66 – the "Lean Government" initiative – we are moving toward a new way of doing business by adopting Lean principles into every facet of state government. Lean Government is geared at reducing the complexity of government processes and driving out waste in order to achieve measured results for our constituents. Lean Government will result in significant business transformation, and the alignment of technology to support this initiative is vital.

To achieve Lean IT, Wisconsin has just embarked on an exciting program to align IT directly to the business of the state. This new program is called our "Enterprise Information Technology Executive Steering Committee Governance" program. The program's key principles include:

- Set IT strategies and objectives to enable business transformation;
- Leverage IT assets: people, process and infrastructure;
- Use common systems and information to gain efficiencies;
- Eliminate duplicate and unnecessary IT spending;
- Ensure interoperability between systems;
- Leverage Lean principles to eliminate waste; and
- Make cost-effective, forward-looking enterprise IT investments.

The governance team is composed of the Deputy Secretary or Executive Assistant from the departments of Transportation; Health Services; Natural Resources; Corrections; Workforce Development; Revenue; Children and Families; and Agriculture, Trade and Consumer Protection. In addition, the Deputy Secretary

of Administration will serve as chair of the group, which will provide strategic IT direction, guidance and significant investment decisions to align IT to state business goals. This governance team delivers the business alignment needed by the State CIO to make sure IT is in lock step with the Governor's goals. We are energized by this governance approach in its potential to transform the value proposition of IT in the state by fundamentally changing the way IT is managed and executes.

The new Enterprise IT Executive Steering Committee has a very important and challenging job ahead during the next several years, given the volume and complexity of business and IT initiatives. This new governance team will provide direction, guidance and oversight over the 10 strategic goals identified in this IT Strategic Plan. We are invigorated by the new, innovative projects that lie ahead for us and the value that will be created for constituents and for agencies utilizing enterprise IT services.

— *Herb Thompson, Deputy Division Administrator*
Division of Enterprise Technology



Strategic Technology Goals and Guiding Principles

Goals

- Align enterprise technology and business strategies through shared governance
- Improve security operations and identity management to secure critical state systems
- Gain efficiencies through creation of a Wisconsin Private Cloud and encourage adoption of public cloud platforms, when appropriate
- Increase e-government services for the public at no additional cost to the state
- Embrace mobility while protecting state information and assets
- Implement Enterprise Resource Planning (ERP) to enable Wisconsin to function as an enterprise
- Modernize legacy IT systems to meet new business strategies
- Improve transparency to state data and information
- Use Lean techniques to transform IT service management practices
- Recruit and retain highly skilled technology staff

Guiding Principles

- Entrepreneurial
- Customer-centric
- Focused on eliminating duplications and lowering costs
- Take calculated risks, rather than being risk averse



Align enterprise technology and business strategies through shared governance

For investments in information technology (IT) to deliver maximum value to the state, they have to be fully aligned with business strategies. But within a complex and heterogeneous enterprise like that of state government, this alignment is easier said than done, and requires effort and processes that must be performed continuously. Effective and readily identifiable governance mechanisms are needed to ensure the collaboration and communication necessary to produce cost-effective and citizen-centric solutions.

The State of Wisconsin in recent years has emphasized the development of collaborative strategies and approaches for IT planning and management. These efforts produced important, tangible results and provided essential guidance for large-scale, interagency projects such as implementation of an enterprise email system and the server consolidation project that culminated in 2010 and relocated state agency servers to a primary, highly reliable data center. The focus on collaboration likewise resulted in advisory groups that help to ensure the Department of Administration's Division of Enterprise Technology (DOA/DET) offers services agencies need at rates that make sense for the enterprise.

The state is now ready to take another important step to ensure alignment of IT investments and business strategies: establishment of the Enterprise IT Executive Steering Committee. This group, chaired by the DOA Deputy Secretary and including representatives from a variety of agencies as well as the State Chief Information Officer (CIO), will provide strategic business direction for management of enterprise IT. The Steering Committee will align and guide enterprise IT investments to achieve statewide business goals, according to the following key principles:

- Set IT strategies and objectives to enable business transformation;
- Leverage IT assets: people, process and infrastructure;
- Use common systems and information to gain efficiencies;
- Eliminate duplicate and unnecessary IT spending;
- Ensure interoperability between systems;
- Leverage Lean principles to eliminate waste; and
- Make cost-effective, forward-looking enterprise IT investments.

Decisions by the Enterprise IT Executive Steering Committee will be made using a variety of methods to be determined by the membership and appropriate to the matters in question. Consensus decision-making, where the entire group supports the specific direction, will be the preferred model, as consensus building results in committee ownership and consistent support of IT directions and strategies.

DOA is in the process of forming the Enterprise IT Executive Steering Committee and finalizing its charter and procedural details. The committee will operate as the senior IT governance group, working in collaboration with other existing groups with important roles:

Information Technology Directors Council – Review DET enterprise shared services; provide business and technology guidance to DET; participate on statewide technical product selections.

DET Financial Customer Advisory Group – Review DET financial position by line of business.

DET Email Customer Advisory Group – Review DET shared email operation and technical direction to support businesses.

DET SharePoint Customer Advisory Group – Review DET shared SharePoint service and technical direction to support business initiatives.

DET Mainframe Customer Advisory Group – Review mainframe operations and technical direction to support business operations.

Technical Architecture Review Committee – Review and establish statewide technical architecture and maintain the technical reference model.

With the Enterprise IT Executive Steering Committee in place and the ongoing contributions of advisory groups, the state will have the effective, shared governance mechanisms needed to maintain business and IT alignment and generate consistent value for agency business areas and citizens.



Improve security operations and identity management to secure critical state systems

Wisconsin, like other states, recognizes the profound opportunities for adding business value through tools such as cloud computing, mobile devices and enhanced online services. But leveraging these new technologies demands a corresponding recognition of, and response to, ever more complex security threats. Historically the state has dealt with data and asset security through a decentralized approach, which has left a loosely connected chain of protections only as strong as the weakest links. Given the expanding array of cyber threats, the state will focus on moving to a centralized model of risk identification, mitigation and management. This will require the state to better understand and classify its data and the potential risks. The state will work to implement a common risk management methodology and security framework, including:

- Boundary management (monitoring and control of communications at the external boundary between systems completely under the management and control of a state organization and systems not completely under the management and control of the state, as well as at key internal intersections);
- Endpoint protection (requiring all devices on the network to meet specific security standards before network access is granted);
- Threat and vulnerability management (focusing resources on identifying and defending against the threats and vulnerabilities most likely to impact the business); and
- Training and awareness, particularly with IT support and security staff.

The state has partnered with an IT research and advisory firm to provide an independent and objective assessment of enterprise IT security. The recommendations from this assessment, along with recent guidance issued by the National Institute of Standards and Technology and the access management roadmap published by the National Association of State Chief Information Officers (NASCIO), will be used to design and refine security strategies.

In conjunction with these enterprise security efforts, the state also has an immediate, high-priority goal of simplifying sign-on requirements for citizens utilizing online services. There are several mechanisms currently in wide use across agencies to verify identities and allow system access, which results in individuals signing on multiple times while conducting transactions on state websites. This reduces the quality of the user experience and inevitably increases costs, due to a higher number of IT help desk calls to resolve password issues.

As explained below in *Increase E-government Services for the Public at No Additional Cost*, Wisconsin is embarking on a comprehensive modernization effort for the state portal, Wisconsin.gov. The new

Wisconsin.gov will provide customers with a single identity to access state applications and services provided by disparate business areas. Users won't need to remember so many IDs and passwords to log in to different systems – obviously a convenience for the citizen, but also a potential security advantage for the state, in that the authentication for those credentials can be made very secure. Currently it's expensive

21 Wisconsin state agencies have
their own identity management
solution

for individual agencies to provide extra security features across many applications, but with advanced portal operations, resources can be placed into strongly securing a main gate instead of maintaining multiple gates with varying levels of protection. This approach offers centralized control for consistent execution of security policies across multiple applications. Therefore simplifying the sign-on experience for citizens requires an increased focus on safeguarding user credentials, but also provides some proven means to do so. The current Wisconsin.gov modernization effort specifically includes identity management requirements, and simplified sign-on will be an important deliverable that is integrated into the state's overall enterprise security strategy.



Gain efficiencies through creation of a Wisconsin Private Cloud and encourage adoption of public cloud platforms, when appropriate

In mid-2010, the state completed its Server Consolidation project, which included implementation of an enterprise email system and relocation of most agency servers to the enterprise data center. This was a significant accomplishment that moved the state much closer to working as an efficient enterprise.

At the end of 2010, another significant milestone occurred when DET published the State of Wisconsin Enterprise Technical Reference Model (TRM), a framework based on the federal enterprise architecture TRM. The culmination of several years of work by an interagency group of technical architects and DET staff, the state's enterprise TRM categorizes the standards and technologies used to enable and support delivery of different services by executive branch agencies. It provides an essential foundation for guiding and advancing the standardization and reuse of technology and service components. Aligning the state's

Federal agencies currently save approximately \$5.5 billion annually through cloud implementations

capital investments to the TRM leverages a recognized set of standards and allows for more collaboration and interoperability. Agencies can then benefit from economies of scale by identifying and reusing the best solutions and technologies to support the mission and business functions of the organization.

The hard work that went into producing a set of enterprise standards and aligning investments with those standards sets the stage for further efficiencies. The state is now ready to take on a significant, cost-effective next step: moving to the use of a private cloud for IT infrastructure services.

Cloud computing is a general term for a set of pooled resources delivered "as a service" over the Internet, typically in the form of infrastructure as a service (IaaS), platform as a service (PaaS), or software as a service (SaaS). There are numerous public and private cloud providers that supply these types of services to other organizations. Public clouds provide services over the Internet with little or no control over the underlying technology infrastructure. This approach appeals to many businesses because it reduces complexity and is usually the least expensive cloud option. Private clouds are deployed over an organization's intranet or hosted data center, typically offering advanced security and availability not possible in a public cloud. For both public and private clouds, by leveraging shared infrastructure and economies of scale, organizations can control the computing services they access while sharing the investment in underlying IT resources. With cloud computing, a customer can spend less time managing complex IT resources and more time focusing on core business missions.

It is a straightforward-sounding concept that doesn't fully convey how this approach is revolutionizing government service delivery. The federal government already has instituted policies designed to accelerate the pace of cloud adoption by requiring agencies to evaluate cloud computing options before making any new investments. Private industry and government alike are trending away from individual departments of an organization providing their own IT services, particularly IT infrastructure-related services. Infrastructure services are typically associated with network, server and storage technologies, and are increasingly being provided by centralized units rather than being dispersed throughout the organization. Infrastructure support services have become commodities over the last several years as the technologies have become more standardized, and the service provider does not need to be as knowledgeable about the organization's business, as opposed to technicians who are providing application development or application-specific support.

An April 2012 study by MeriTalk, an online community and resource for government IT professionals, indicates that federal agencies currently save approximately \$5.5 billion yearly through cloud implementations. The report went on to cite a possible \$12 billion in annual savings, based on budget data input from federal IT programs.

These developments are prominent reasons why organizations have been looking to the public and private cloud for infrastructure and other support services. DET and its agency partners likewise have worked diligently during the last several years to identify the true costs associated with providing various services, which puts both DET and the state as a whole in a very good position to evaluate cloud-based solutions from a cost perspective. The results of these analyses and the examples of industry leaders make it clear that infrastructure services should be provided centrally in order to achieve additional efficiencies.

The solution is for DET to deliver a Wisconsin Private Cloud for IaaS to state agencies. In this service provision model, DET owns and manages the IT infrastructure used to support agency applications, including hardware, servers, storage, networking components, security, backup and disaster recovery. DET already provides IaaS to several agencies of varying size and is set up to do this for all agency customers at the enterprise data center. Initial estimates indicate that the state could save more than \$10 million annually through comprehensively using a private cloud for commoditized infrastructure services.

A Wisconsin Private Cloud for infrastructure services ensures a secure, customer-responsive environment

A basic premise in the move to a private cloud for IaaS is that the state does not consolidate simply for consolidation's sake. IT services and resources will be provided from a centralized source only when it makes financial and operational sense for agency business areas. Similarly, the range of products and services provided by DET through a private cloud will still reflect an appropriate level of flexibility and industry acceptance in order to meet agency business needs. Because agencies have differing levels of requirements, the solution for a certain type of service may be different for different agencies, or for different applications within a single agency. But a statewide private cloud nevertheless allows for managing the number of solutions in use throughout the enterprise in order to achieve the economies of scale that save taxpayer money.

According to their annual IT plans, agencies are having increasing difficulties in retaining qualified IT staff, and there is growing risk that agencies will only be one-person deep in a number of essential technical support areas. At the same time, some small and medium-size agencies struggle with the costs and complexities of licensing a multitude of support technologies. Moving to a private cloud model mitigates those risks considerably and allows state staff to focus on business functions.

DET is in the process of working with agency partners to migrate more IT infrastructure services to the Wisconsin Private Cloud. This effort will be a primary focus for the upcoming biennium and is an essential component of the state's overall strategy of optimizing cloud-based solutions. While some organizations are choosing public cloud options for IaaS, Wisconsin's approach of using a private cloud – i.e., providing infrastructure services within the state's firewall and leveraging existing state resources, staff and the enterprise data center – ensures a secure, customer-responsive cloud environment.

Meanwhile, public cloud options might still offer the most cost-effective solution for particular services or for sub-units of the private cloud service DET provides to agencies. Wisconsin will pursue an integrated approach, leveraging the power of both public and private clouds according to the needs of business areas and the circumstances of specific services.

Email is a good example of where a public cloud platform could provide the most cost-effective solution for a key business need. States such as Florida and Nebraska already have moved email services to cloud providers in order to lower costs while still meeting business requirements. Based on discussions with these states and reviews of their implementations, the State of Wisconsin also will consider the public cloud strategy for email.



Increase e-government services for the public at no additional cost to the state

In September 2000, Governor Tommy Thompson issued Executive Order # 408, which required state agencies to create an Internet-based service center giving citizens secure and reliable access to core state government services. Just a few months later, the first Wisconsin.gov portal was up and running, designed mainly as a gateway to agency websites. Accordingly, online services for vehicle registration, licenses and permits, employment, and small business services, for example, were – and continue to be – managed by individual agencies on separate platforms.

Since 2000, many citizen-focused enhancements were made to Wisconsin.gov, and there is no question that the portal has been successful in achieving its original goals. But the portal still functions fundamentally as a gateway to agency websites, which often leads to confusing navigation via organizational structures and less coordination of the overall user experience. There is likewise the

ongoing problem of agencies trying to figure out how to pay for improvement of their sites and additional online services citizens have come to expect. The state envisions a portal organized by citizen needs with sustainable funding mechanisms.

As a proven method for expanding self-service e-government at minimal cost to agencies, the self-funded portal provides a practical solution for a pressing challenge. As explained in a 2011 paper from the Center for Digital Government, a self-funded portal model eliminates the financial risks states have to undertake by transferring the up-front capital investment for a new portal to a private sector partner. The state then charges transaction fees on

- 27 states have public-private portal partnerships
- 7,000 e-government services online
- 150 million online transactions annually

a small number of services – primarily value-added, business-to-government transactions – to fund the operation of the overall portal. These fees cover the cost of paying the vendor partner for the initial investment as well as ongoing maintenance, upgrades and development of new self-service solutions.

This is not an untested model. Currently 27 states are using private-sector partners to achieve advanced portal operations and provide the most up-to-date e-government services. Twenty-three states are specifically using the self-funded portal model. These states are reporting similarly positive results, including:

- Significant increases in the number and cost-effectiveness of online services;
- More interactive and one-stop e-government services;
- Improved search functionality;
- Low maintenance costs;
- Day-to-day content management can be handled by agency staff; and
- Support from experienced Web developers from vendor.

Implementing a self-funded Wisconsin.gov portal is a top priority for the next biennium, and DOA will work with agencies to guide a transition into the self-funded model.



Embrace mobility while protecting state information and assets

The drive toward mobility to produce business value presents significant opportunities – and challenges – for government enterprises. The benefits aren't difficult to envision – field employees such as inspectors and conservation wardens, for example, can realize significant savings in time and money from implementing processes using mobile devices and eliminating manual, paper-based activities. The IT

research firm Gartner, Inc. estimates that mobile devices will surpass legacy computing devices as soon as 2013, and organizations can generate productivity gains of 10 to 15 percent annually by deploying the right device to the right user. That is a potential business value-add impossible to ignore.

The risks, however, demand equal attention. Mobile devices get lost and stolen. Viruses and malware hit mobile devices as frequently and insidiously as they ever have on traditional desktops. Sensitive data could get stored improperly and made vulnerable. Hackers can target mobile devices to try to establish a virtual connection to internal networks.

Gartner estimates that by 2014, 80% of professionals will use at least two mobile devices to access enterprise systems and data

Private sector organizations have shown it's possible to enable employees to securely use mobile devices for business purposes, but it requires proactive measures. The State of Wisconsin is taking that forward-looking approach by establishing an enterprise mobile device management (MDM) program. The program is defining business requirements and developing policies and practices to support those requirements while safeguarding state assets – both physical and electronic. The state also is determining how the policies will be implemented and audited through a mobile device management product. The initiative is underway, as the state works to address the fundamental business need of exploiting productivity gains, while effectively managing the growth of mobile device use and risks to the state network. The state's MDM program is incorporating a BYOD (bring your own device) policy, in which the MDM product is installed on the user's device to ensure secure and controlled access to state network resources. This

Smartphones will surpass 1.82 billion units in 2013, eclipsing the 1.78 billion PCs

approach has become the norm in the private sector and offers some potential savings to the state, as it won't have to be purchasing devices for all users.

DOA is currently finalizing terms of a one-year contract with a vendor to supply a mobile device management product and will work with agency partners to continue implementation of the MDM program. This ongoing work includes an important component: an enterprise effort to foster the development, deployment and support of a new wave of mobile applications for state and public consumption. Citizens are looking to maximize their productivity with mobile devices just as government agencies are, and the state is evolving its application platforms to be compatible with mobile development.



Implement Enterprise Resource Planning (ERP) to enable Wisconsin to function as an enterprise

Wisconsin state government has approximately 120 administrative systems in place to handle functions such as accounting, budgeting, human resources, payroll and procurement. This level of fragmentation naturally leads to a lack of data integration and makes it difficult to answer even the most straightforward business questions about operations throughout the enterprise. Meanwhile, maintaining all these disparate legacy systems is risky and expensive.

Wisconsin, like most states, needs to standardize administrative processes and replace legacy systems with an enterprise resource planning (ERP) system. With an ERP, the state will have one integrated financial system to support, instead of 60. It will have one human resource and payroll system, instead of around 40. It will have an enterprise purchasing system that can produce reliable reports on statewide expenditures for particular commodities and across business areas. Transaction data for all the administrative systems will go into a central database, resulting in significant cost reductions and improvements in reporting capability. Policymakers will finally have the timely, accurate and actionable enterprise-wide reports they need, while Web-based services will provide transparency and self-service functionality to citizens and vendors.

The business drivers for an ERP system are compelling, but an ERP implementation is inherently demanding work with significant organizational challenges. They are typically expensive efforts requiring sustained business commitment. Ultimately there is the paramount need for successful organizational change management, as even the most diligently designed and implemented ERP solution will fail if staff don't fully embrace the new system and business processes.

All of these challenges help to explain why state governments have been slow to take on and sometimes even slower to complete ERP initiatives. The longer-term business drivers, however, are prevalent and don't go away. Accordingly, about 40 states now have an ERP implementation either completed or in process. Wisconsin needs to be in that category. The state is currently building a comprehensive business case for ERP implementation that takes into account the significance of avoiding the risk and potential expense of critical system failures.

Approximately 40 states now have an ERP implementation either completed or in process

ERP also is a key strategy for achieving increased transparency in government operations. When business applications communicate with each other, policymakers and citizens alike can mine data more effectively to evaluate costs and apply performance measures. Several states are already using ERP systems in combination with business intelligence tools to provide publicly searchable transparency data on

appropriations, revenues, expenditures and vendor contracts. Difficult budget decisions become more manageable when lawmakers and citizens know the information being analyzed is comprehensive and reliable.

During the upcoming biennium, DOA will work with its agency partners on an ERP implementation. In recent years, additional viable options for ERP have emerged, most notably cloud-based solutions, as opposed to the traditional on-premise approach of installing software locally throughout the organization. Cloud ERP can mitigate the upfront investment, reduce dependence on internal IT resources, and provide quicker upgrades. Some enterprises have opted for best-of-breed approaches, in which software is utilized from different vendors in order to obtain the best fit for each functional area – for example, a human resources package from one vendor and an accounting package from another, with integration middleware used to connect systems. Technological developments have made systems increasingly open and more easily integrated. The state will work in a cohesive manner to evaluate all the solution options and deliver business value to the enterprise.

As crucial as an ERP implementation is to the state's plans for long-term efficiencies and improved transparency, there is one key aspect to keep in mind: ERP is not a technology project. It is a business project that requires business leadership and involvement. DET and technology staff throughout agencies will ensure that the appropriate IT infrastructure exists for a successful ERP implementation, but the effort is not fundamentally a technical one. The important point is that during the upcoming biennium and beyond, state IT organizations will provide the necessary technical resources and environments to ensure an ERP initiative and the resulting functionality are properly supported.

Regardless of the eventual platform for an ERP solution – on-premise, cloud-based, or hybrid – certain challenges are never diminished, such as assessing business processes and modifying as needed, ensuring the new system is aligned with operations, defining roles and responsibilities, conducting change management and ultimately training staff. The planning and implementation work for ERP must move forward in state government, and the IT community will be there as an essential partner.



Modernize legacy IT systems to meet new business strategies

Implementing an ERP system and replacing the enterprise email system go a long way toward modernizing foundational applications for state government operations, but these are nevertheless just a few of the components of the state's overall strategy for application modernization. Across the spectrum of program areas, the state spends much of its IT resources maintaining legacy applications based on older

technologies that need to be modernized in order to produce efficiencies and meet rapidly changing business needs.

Private sector firms have gone through the cycle of increasingly bloated, expensive legacy applications and the ensuing frustration when modernizing efforts are undercut by tight budgets. The ironic result is more patches and short-term fixes, which in turn usually exacerbate the resource issues. But the business case for more comprehensive modernization and streamlining of application environments remains convincing, as shown by the organizations that have found ways to move forward. They report benefits such as:

- Better alignment of business and technology;
- Improved employee productivity by simplifying complex systems;
- Increased agility;
- Improved security;
- More reliable business continuity plans;
- More efficient compliance tracking;
- Reduced dependence on hard-to-find legacy skill sets;
- Decreased technology maintenance spends, which frees up funds for more strategic and innovative programs; and
- Ability to integrate with mobile devices.

The challenge of modernizing – and conducting the equally necessary change management activities – amid budget constraints remains formidable. But effective strategies have emerged to keep the process moving. Applications need to be inventoried and compared against their business value and operational costs – that determines the priorities. Engage business owners early to align the technology and application roadmap with business plans. Some systems might have to be replaced, but others can still produce business value through migrating onto more modern platforms or adding Web interfaces. Organizations can take advantage of low-hanging cloud opportunities, particularly with infrastructure and common software services. Modernization should be coordinated at an enterprise level, in order to focus on reusable solutions. The key is to recognize application modernization as an ongoing, disciplined activity, and review application portfolios and the resulting management plans on a regular basis.

Application modernization will be coordinated at an enterprise level to focus on reusable solutions

As part of the annual IT planning process DOA coordinates with agencies, the state will begin to inventory applications systematically and develop enterprise strategies for prioritizing the work and investments needed to modernize applications. The portfolio of applications across state agencies needs to be managed at an enterprise level in order to extract maximum efficiencies for taxpayers and evolve applications to enable mobility and easy interaction with government. Having a more comprehensive understanding of the application landscape in state government is an essential first step toward modernization and an important objective for the upcoming biennium.



Improve transparency to state data and information

The term “analytics” comprises the tools and resources available to analyze data about an enterprise’s activities so that better and quicker business decisions can be made. A key distinguishing factor for what constitutes analytics is the ability to provide not only extensive historical analysis but reliable predictive information as well, which is a game-changer for policymakers. Analytics likewise provide citizens with tools to access government data and decide for themselves how well agencies and elected officials are delivering on policy goals. Simply put, analytics are the foundation for giving decision makers the actionable information they need and citizens the transparency they deserve. Developing business-analytics capabilities has therefore become a major, overarching goal for state governments, Wisconsin included.

For evaluating the effectiveness of state government operations, this is again an example where establishing ERP functionality comes in, so the state can draw upon more complete and standardized data from multiple agencies. But the potential for analytics goes much further. State and local governments have already utilized analytic tools and models to:

- Base funding decisions on extensive, real-time statistical analyses instead of intuition and outdated information;
- Predict the effects of proposed legislation on state and local criminal justice system capacity;
- Evaluate crime patterns and position law enforcement resources in order to reduce criminal activity in anticipated trouble spots;
- Focus efforts for the collection of unpaid taxes;
- Guide workforce planning activities and ensure certain public-sector talent pools are sufficiently deep;
- Match job seeker resumes with skills requested by businesses;
- Assist in administering health care programs;
- Conduct surveillance of health threats and help in detection of disease outbreaks;
- Anticipate how changes in service delivery might affect regions and communities over time; and
- Launch websites giving media and citizens extensive access to government data; the sites provide functionality to track spending and other resource utilization, through displays of text, graphs and maps.

What really stands out among the initial successes with government analytics is the predictive element – being able to position policies and strategies ahead of developing trends and demographics. And while the private sector has been quicker to cultivate analytics capabilities, studies show that governments are still comparatively underinvested in these tools. But their essential role in driving fact-based management decisions and promoting government transparency is clear, and in recent years the National Association of

State Chief Information Officers has cited business analytics applications as a priority technology for state governments to pursue. Again, the question is how to do so in a meaningful way amid ongoing budget constraints.

During the upcoming biennium, the state will pursue development of analytic tools and capabilities according to the best practices that have emerged from private sector experiences and early government adopters. First steps will include evaluating current utilization and planned

Business analytics provide the ability to position policies and strategies ahead of developing trends

deployments of business analytics throughout agencies and identifying opportunities for leveraging those activities for benefit of the enterprise. Then the state can outline an enterprise strategy for expanding analytics capabilities going forward. As is true with the ERP implementation, business managers will need to be key partners in the process of advancing analytics to improve service delivery.



Use Lean techniques to transform IT service management practices

Governor Walker's Commission on Waste, Fraud, and Abuse in early 2012 issued a report that recommended adoption of a Lean Government initiative, utilizing the Lean principles of continuous improvement widely used in manufacturing since after World War II. Minnesota, Iowa and Connecticut are just a few of the state governments applying Lean techniques with excellent results. Governor Walker responded with Executive Order # 66, which directs agencies to implement Lean Government and report their progress.

Wisconsin's Lean Government initiative will change government culture by engaging leadership and staff in the application of Lean principles to eliminate waste, save time, standardize workflows, and decrease process complexity. Central to that effort is the process of an agency clearly defining its mission, including

Lean involves the elimination of any work that adds no business value

the customers the agency serves and customers' views on what constitutes good value. Similarly, the agency must establish customer service measurement criteria that produce information enabling the agency to track improvement. The Lean initiative goal is increased service

efficiencies for customers of state government and a safer, more streamlined workplace for employees. Economic realities require government to move at the speed of business, and Lean is a tool to bring government to that speed.

Lean Government has definite implications for IT organizations as well. Though Lean emerged from manufacturing environments, its principles have been successfully applied to service provision, and can transform IT service management practices. In the context of IT, Lean involves the elimination of any work that adds no business value, and relies on a key methodology of value-stream mapping – the process of diagramming services (value streams) into their component steps, analyzing those steps, and eliminating any steps (or entire services) that don't deliver value.

While IT value streams can be more abstract and difficult to depict than those in manufacturing, tools are emerging that help with this process, particularly as Web-based transactions are prompting convergence of IT and business systems. Lean IT techniques have been applied to application development and performance monitoring, service catalog management, and help desk processes – all of which are particularly important for a service-provision organization such as DET. Lean's focus on alignment with business needs and the resulting techniques are likewise compatible with the concepts and best practices advanced by ITIL (Information Technology Infrastructure Library), a widely used framework for IT service management that has informed much of DET's process improvement efforts up to now. Lean IT's emphasis on eliminating waste also reinforces enterprise strategies like virtualization technology and data center efficiency.

In concert with agencies' efforts to implement Lean Government, IT organizations, led by DET, will work to incorporate all Lean techniques that can enhance customer service to business areas and Wisconsin citizens. A key directive of Governor Walker's executive order is that agencies collaborate and share insights on their Lean Government efforts, and this partnership-driven approach will be adhered to diligently by the state IT community.



Recruit and retain highly skilled technology staff

Amid the multitude of economic problems Wisconsin and all other states have faced in recent years, one area stands out in contrast: the unemployment rate among IT professionals in the state is only 1.8 percent. But what is comparatively good news for IT workers presents a significant challenge for organizations trying to maintain a quality IT staff, both in the private and public sectors. The State of Wisconsin recognizes that successful follow-through on all of the IT strategies and guiding principles described in this plan depends on its ability to recruit and retain a highly skilled technology workforce. Once again, the answer lies in proactive approaches and partnership opportunities.

The unemployment rate among IT professionals in Wisconsin is only 1.8%

State government will emphasize a “grow our own” strategy for producing the qualified IT staff it needs, including:

- Establishing programs with Wisconsin universities designed to keep IT graduates within our communities;
- Pursuing innovative student recruitment methods, e.g., social networks and virtual job fairs;
- Making use of apprenticeships, in which entry-level salaries are provided to employees who then learn on the job;
- Working with IT staff to craft and implement professional development plans;
- Encouraging employees to enter IT and other professional certification programs;
- Creating new job descriptions to reflect emerging IT functions and provide flexibility in the rapidly changing IT environment;
- Giving IT staff opportunities to bring innovative solutions to business problems;
- Utilizing alternative work arrangements, such as flexible hours and telecommuting, to the extent practical and appropriate;
- Reaching out to experienced private sector IT professionals who are retired or looking for a career change; and
- Providing access to non-technical training as well to develop critical new skills and keep employees engaged in overall organizational missions.

All of these approaches for recruiting and retaining IT staff harmonize in a fundamental way with the other high-priority strategies outlined in this plan; for instance, as the state takes on ERP implementation and application modernization, those initiatives result in a dynamic, challenging work environment where employees’ efforts are clearly reflected in increased business efficiencies and improved services to citizens. Studies consistently show that many professionals enter government employment in large part due to the satisfaction they feel from helping to deliver vital public services. As Wisconsin moves forward on the 10 strategic goals described in this statewide plan, its information technology staff will always be able to see the connections between their day-to-day work and the business outcomes that strengthen communities and enhance quality of life.



Conclusion

With this 2012 plan, the state IT community has tried to strike a balance between presenting specific activities for the next biennium while also charting a course for how IT can generate ongoing business value and taxpayer savings. The fundamental guiding principles that IT should support business agility and enable informed business decisions lead to the 10 strategic technology goals described above. Many other activities and projects will need to be folded into the work to achieve those 10 goals, and the inevitable nature of this work is that some initiatives will need to be modified, recalibrated and rescheduled along the way. While projects often need to be adjusted, the business needs that prompted them in the first place rarely go away, so IT managers and staff within state agencies will remain focused on the ultimate outcome of optimizing business value. As Governor Walker has said, Wisconsin government must always be looking for ways to improve operations and services. The state IT community is committed to working as an enterprise in order to do that, and looks forward to partnering with policymakers and agency managers to generate business value and enhance citizens' experience with government.

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